3 COMMENT DOCUMENTS

This section presents the documents submitted to the DOE during the 45-day public comment period on the Draft SEIS and the transcripts of the public meetings held on December 1 and 8, 1999. DOE reviewed each document and transcript and identified the public comments provided. Each comment was marked with a bar and the comment number. For example, Comment 1-3 is the third comment in Document 1. An index of commenters and comment numbers is provided below. DOE has responded individually to each comment in the next section, Section 4.

Rene Steinhauer, Tri-Valley CAREs: Comments 3-6 and 3-40 to 3-43

Dennis Thomas: Comments 12-1 to 12-2

Andreas Tupadocus: Comments 3-88 to 3-92

Janice Turner, Sierra Club-Bay Chapter, Tri-Valley CAREs: Comments 4-22 to 4-23 and 15-1

Ken Zahn: Comment 3-5

Hisham Zerriffi, Institute for Energy and Environmental Research, Tacoma Park, Maryland: Comments 1-1 to 1-8 and 1-18 to 1-23

Unidentified Speaker: Comments 3-10 to 3-12

DOCUMENT 1: Meeting Transcript, Washington D.C., December 1, 1999, 2:00 p.m.

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TRANSCRIPT OF PROCEEDINGS

IN RE:)
)
DRAFT NIF SEIS)
PUBLIC MEETING)

Pages: 1 through 39

Place: Washington, D.C.

Date: December 1, 1999

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UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF DEFENSE PROGRAMS

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
FOR THE NATIONAL IGNITION FACILITY
(Draft NIF SEIS)

IN RE:)
)
PUBLIC MEETING)
)

Room 6069
James Forrestal Building
1000 Independence Avenue, S.W.
Washington, D.C.

Wednesday
December 1, 1999

The meeting in the above-entitled matter commenced, pursuant to notice, at 2:00 p.m.

BEFORE: HOLMES BROWN, Facilitator
Afton & Associates

APPEARANCES:

DAVID H. CRANDALL, Director,
Office of Defense Science
Office of Defense Programs

RICHARD SCOTT
Document Manager for the NIF SEIS
ES&H Program Manager for NIF
Oakland Operations Office

STEVE FERGUSON, Attorney,
Office of General Counsel

ANNA AURILLIO, Staff Scientist
U.S. PIRG

APPEARANCES (continued):

ALSO PRESENT:

HISHAM ZERRIFFI, Project Scientist
Institute for Energy and
Environmental Research

MAUREEN ELDREDGE
Alliance for Nuclear Accountability

P R O C E E D I N G S

(2:06 p.m.)

MR. BROWN: Good afternoon. We are formally convening the meeting on the supplemental draft environmental impact statement for the National Ignition Facility. Let the record show that at this point it is 2:07 in the afternoon, that no member of the public is present, so we will recess this meeting until the point at which a member of the public attends the meeting. So we will now recess. Thank you.

(Whereupon, at 2:07 p.m., a brief recess was taken.)

MR. BROWN: Good afternoon. We will reconvene this meeting on the draft supplemental environmental impact statement on the National Ignition Facility at 2:16. We have members of the public present.

Good afternoon and welcome to this first of three meetings on the draft supplemental environmental impact statement. My name is Holmes Brown. I will serve as the facilitator for this meeting. I am not an employee of the Department of Energy, and I'm not an advocate for any particular party or position. My role is to assure that this meeting proceeds as scheduled and that all persons have an opportunity to speak.

The agenda for this afternoon's meeting is as

follows. We will begin with a presentation by DOE staff summarizing the content of the supplemental EIS. Next, a panel of three DOE staff will be available to respond to questions. After that, we will begin the formal comment period. The entire meeting beginning now will be transcribed by our court reporter, Ted Fambro.

Let me remind you that the question-and-answer period is to clarify points relating to the presentation and to the supplemental EIS. Comments should be offered during the formal comment period rather than during the question period.

If there are no questions on the agenda or procedures, we will now turn to our presentation. I'd like to introduce Richard Scott, who is the document manager for NIF, with the DOE's Oakland Operations Office.

MR. SCOTT: Thank you. As he said, I'm Richard Scott. I'm the document manager from DOE. I'm actually a chemical engineer in the State of California, with a P.E. in chemical engineering.

The purpose of this meeting is to provide the public an opportunity to comment on the NIF draft supplemental environmental impact statement to the stockpile, stewardship, and management program, and that's the EIS number.

The reason we're here is the PEIS lawsuit resulted

in a joint stipulation and order whereby DOE agreed to evaluate the reasonably foreseeable significant environmental impacts of continuing to construct and operate the NIF with respect to contamination in the area by hazardous toxic and/or radioactive materials.

To reiterate the agenda, there will be a DOE presentation, an opportunity for elected officials, which we have none, and then there is a signup sheet for public comments, and a transcript will be made.

Just to summarize, the SEIS NEPA process, comments will be accepted until December 20th, and all comments will be considered in the final SEIS. The comment response portion will be in the appendix to the final SEIS. A Record of the decision will be published in the Federal Register at the end of that, and the process is scheduled to be completed in the spring of 2000.

The background to this is the environmental consequences of siting and construction and operations of the NIF were addressed in the SSM PEIS, and that was the strategic PEIS. The ROD was published on December 26, '96, and it was the decision to construct and operate the NIF at Lawrence Livermore. Ground breaking took place in May of '97.

This is the current construction status of where the construction is right now. It's about 82 percent

complete of the conventional facilities where the laser equipment will be sited. During the early construction the site-removal activities of the construction project we discovered capacitors and removed the capacitors and related contaminated soil, the excavation activities, and there were 112 capacitors and a number of tons of PCB-contaminated soil.

The capacitor and soil cleanup was conducted with the oversight by the federal and state remedial project managers, and it was done under the CERCLA process. The RPNs included the U.S. EPA, the State of California Department of Toxic Substances Control, and the San Francisco Bay Regional Water Control Board.

The joint stipulation and order require the characterization of various areas in and around the NIF site. The characterization was done to determine if the areas contained hazardous toxics and/or radioactive buried objects. During that characterization process the progress was reported to the court through the quarterly reports that were accomplished. Following characterization, this draft supplemental EIS was prepared.

The areas for evaluation in the joint stipulation and order were the helipad area, the east traffic circle, the northern boundary area, the Building 571 area, the East Gate Drive area, Building 490, and the NIF construction

site. This is a map of those areas. This is the NIF construction site, and this is where the PCB capacitors were discovered in there. These green areas are the seven areas, and it's about the top northwest quadrant of the laboratory. The larger picture is on the wall there. This is the east traffic circle area for future reference.

The investigation under the JSO required that we look at past records and photos, and past employees were interviewed who were working there prior to 1984, and all retirees who were working at that time were sent letters requesting if they had any information on this issue. Geophysical surveys were conducted throughout the areas that were evaluated. Ground water wells and soil borings and excavations were made and, again, quarterly reports were given to the court with details of all of these studies, and now we have prepared a supplemental EIS.

The actual characterization activities included a review of all historical records we had, examination of aerial photographs, interviews with current employees and past retirees. We conducted magnetometer surveys, electromagnet-induction surveys, and ground-penetrating radar surveys, and that was basically state-of-the-art geophysical techniques were used in this set of surveys.

We drilled bore holes and analyzed soil samples, we drilled monitoring wells and analyzed ground water

samples, and we had a tremendous number of existing ground water wells that we analyzed, and we looked at all of those samples and responses. We made exploratory excavations based on any geophysical results that implied that we needed to look in that area in more detail.

The results of the work to date is that sediment samples have found really no contaminants above levels or regulatory concern. Only construction debris was uncovered during the drilling of these bore holes and excavation based on the geophysical results. Ground water sampling at the NIF site has found ongoing cleanup had continued to reduce the contamination levels, and at the specific NIF site were below the maximum contaminant level that required results. No PCBs have been detected in the ground water anywhere on the site.

Results of the other areas outside of the NIF construction site itself where the geophysical surveys were evaluated, bore holes and/or excavations on significant geophysical anomalies found only construction debris. The ground water sampling has found ongoing cleanup has continued to reduce the contamination levels in these other areas.

Again, this is a picture of all of the ground water-monitoring wells we have on the site. There's approximately 450 ground water monitoring wells that are

currently evaluated. After much of this work has been accomplished we did find some PCB contamination in the east traffic circle area during routine maintenance, and this is outside the NIF construction area. Again, I can show you on the viewgraph if you would like to see where that was, but that's the east traffic circle area I showed on the first one. That was during routine maintenance away from the construction project at the surface level. Approximately 110 cubic yards of contaminated soil were removed to a regulatory approved level.

The environmental impacts of the studies have shown that there is a low likelihood that buried hazardous toxic or radioactive objects remain in the stipulated areas. The soil and ground water sampling have indicated that there is a low likelihood of finding additional buried waste. The continued construction and operation of NIF will not result in a release of hazardous toxic or radioactive material to the ground water.

The cumulative impacts of this process have been that the cleanup of the contaminated soil, removal of buried capacitors, and the continued reduction in ground water contamination, and the low probability of finding additional buried hazardous toxic and or radioactive material will cumulatively have a positive overall impact to the environment.

For the SEIS the proposed action and the alternatives were to continue to construct and operate the NIF as indicated in the SSN PEIS, which is the preferred alternative. There is another construct of that no-action alternative, and that would be to cease construction of the NIF and construct and operate at another site or possibly cancel the project entirely. In this case, because of the low level of hazard and the low level of materials found during the investigations, we do not consider that required to be analyzed beyond the first level of looking at it, which we did just generally in the document.

An additional action alternative would have been environmental mitigation if we had found significant contamination. And, again, the characterization activities indicate that there is no action that's required under that process.

The draft SEIS finding is that the results of the analysis indicate that the concentrations of the contaminants are below the applicability level of regulatory concern and that the impacts from the buried material on human health and environment are very low.

The rest of the SEIS process is to -- well, this is the SEIS process. We are going to reissue the Federal Register notice. We are holding this public meeting. We will hold two additional public meetings at Livermore.

Public comments are due to DOE in writing by the 20th, or we'll take them here in any statements. We will issue then a final SEIS in the spring of 2000 and publish a record of decision in the Federal Register, and, again, it's scheduled in the spring of 2000.

That's an overview of the SEIS, and we'll open for any questions now.

MR. BROWN: Thanks very much. It's now time for the question-and-answer period. I'd like to introduce the other members of the panel. Dave Crandall is the director of the Office of Defense Science. He is in the middle. And Steve Ferguson is an attorney with DOE's Office of General Counsel, and Richard Scott will also be available to respond to questions.

I'll remind you, we will have a formal comment period following this, so if you just want to ask questions at this point, they often lead to comments, but if you can just ask questions now, we are open for questions. If you want to identify yourself, that's fine.

MR. ZERRIFFI: Yeah. My name is Hisham Zerriffi. I'm with the Institute for Energy and Environmental Research in Takoma Park, Maryland. My first question, you mentioned that NIF is now 82 percent constructed. What was the level of construction at the time that the joint stipulation and order was entered into? **1-1**

MR. CRANDALL: Be corrected, the NIF conventional facility, 82 percent constructed. The overall NIF is of order 50 percent, depending on how we get it rebaselined. In October '97, at the time of the joint stipulation and order, the excavation was approximately complete, and a few other things had been done, so that was probably -- the conventional facility was probably of order 10 percent maybe. Allen can shake his head or not, depending on whether that's about right.

MR. ZERRIFFI: Okay.

MR. CRANDALL: But we could be more precise if --

MR. ZERRIFFI: No. I just wanted to get a rough idea of where it was. Basically you had excavated, but you really hadn't started pouring much concrete essentially.

MR. CRANDALL: That's correct. We had to pour probably some. I know we had to pour footings in some cases, but not extensive.

MR. ZERRIFFI: But not extensive. Okay.

MR. SCOTT: If I could just add, that where the PCBs were is just a small little area, and that construction continued in all of the surrounding areas.

MR. ZERRIFFI: Right. And then you didn't start characterization activities, what, I guess, is Phase 2 under the joint stipulation, until, what, about a year? I'm just trying to get some of these dates. **1-2**

MR. SCOTT: No. Characterization activities started essentially immediately.

MR. ZERRIFFI: Started immediately.

MR. SCOTT: That really was the Phase 1, the interviews and review of photographs, and all that kind of initial looking at what is a potential area. I'm not sure -- probably the first geophysical work started in January following the October stipulation.

MR. ZERRIFFI: Okay. So a few months later.

MR. SCOTT: A few months after --

MR. ZERRIFFI: So still not much construction had occurred at that point. Okay. And then in the SEIS you discussed characterization, it appears to me -- you can correct me if I'm wrong here -- that you essentially did what we call Phase 2 or some of the actual physical characterization work, at the edges of the construction site, sort of all around the construction site but not necessarily right on the construction site. Is that -- **1-3**

MR. SCOTT: No. The geophysical work went through the construction site area.

MR. ZERRIFFI: Through the whole construction site. Okay. And that's perhaps -- it says around the perimeter of the NIF construction area and in the area of the capacitor landfill discovery.

MR. CRANDALL: The main base area of the site had

been excavated down to its level and was not excavated further except in very selected locations.

MR. ZERRIFFI: But did you do any of the geophysical measurements any of the ground-tracking radar measurements, or any of those types of things? **1-4**

MR. CRANDALL: With a zero expectation of finding any buried treasure at that depth.

MR. ZERRIFFI: I'm just trying to figure out what exactly was happening at the time.

MR. CRANDALL: The geophysical characterization was primarily around that perimeter.

MR. ZERRIFFI: Around the area --

MR. CRANDALL: Not exclusively so. There was some within the site, but it was not extensive.

MR. ZERRIFFI: Okay. Fine. Okay. My next question relates to -- I just wanted to make sure I understand something. Would you consider this a NEPA document? **1-5**

MR. FERGUSON: Yes, it is.

MR. ZERRIFFI: It is a NEPA document?

MR. FERGUSON: Yes.

MR. ZERRIFFI: Okay. That's what I kind of thought, considering it looks like a NEPA document. You continued construction of the National Ignition Facility at the time that this document was being prepared.

MR. FERGUSON: That's correct.

MR. ZERRIFFI: Okay. What's the point of this document?

MR. FERGUSON: It's to fulfill the requirements of the joint stipulation. **1-6**

MR. ZERRIFFI: I see. So I'm a little confused here, because for me a NEPA document means that you were going to do an environmental impact analysis, make a decision, and then proceed with your action.

MR. FERGUSON: There has already been an environmental document prepared for this facility.

MR. ZERRIFFI: Right.

MR. FERGUSON: This had a very narrow focus, and it had to do with the potential for finding additional contamination at the site. The court chose not to restrain or limit the activities of the department during that period, and the department assumed responsibility for what it might find, and depending on what it found, it had various ways to go. As it turned out, there was nothing found, and it proceeded to continue to construct.

MR. ZERRIFFI: Okay. I have two more questions, I think.

There has been in all of this documentation that's been produced on the National Ignition Facility, there has been at times discussion of using materials like lithium **1-7**

hydride, plutonium, and uranium at the facility. My understanding is that currently this is not planned for experimentation at the facility. I could be wrong. My question, though, is, is use of those materials within the plan, and is it possible to use those materials within the facility, even if they are not planned to do those experiments at the time?

1-7 (cont.)

MR. CRANDALL: It depends on the material.

MR. ZERRIFFI: Specifically plutonium, uranium, and lithium hydrides.

MR. CRANDALL: Plutonium, we will make a decision before January 1, 2004 whether or not to do any experiments with plutonium, and if we decide to propose experiments with plutonium, we will then enter into a NEPA consideration of that.

MR. ZERRIFFI: Okay.

MR. CRANDALL: With respect to uranium, we did a supplemental analysis and determined that there was no impact from using uranium in the specific experiments considered, and in the case of lithium hydride, there is an expectation we might do small quantities of lithium hydride that fit within the present time but no substantial quantities which was what was the question.

MR. FERGUSON: Again, that could be part of a decision to do in the future, but it would be subject to the

NEPA consideration.

MR. ZERRIFFI: Okay. So there will be a separate NEPA analysis done if those decisions are made.

MR. CRANDALL: Yes.

MR. ZERRIFFI: Okay. That's what I wanted to know. And in my last question is -- this is going to be a really stupid question. It's going to seem like a real stupid question, but it sort of struck me when I was reading this thing, and that is if you finish construction, operate the facility for its period that you are supposed to operate it for, what do you plan to do with it at the end? **1-8**

MR. CRANDALL: There has been a little study of the decommissioning, but not any substantial study.

MR. ZERRIFFI: Okay.

MR. CRANDALL: That facility, given the nature of its construction, it will be there for a very long time. It will be hard to remove. So decommissioning might mean any number of alternative uses or manners of closing the facility, but that has not been studied in any detail. The anticipated life of the facility is 30 years.

MR. ZERRIFFI: All right. That's it.

MR. BROWN: Thanks very much. Are there other questions?

MS. ELDREDGE: I'm Maureen Eldredge with the Alliance for Nuclear Accountability. A couple of questions.

One regarding the characterization. How much of it was completed when the eastern traffic circle contamination was found? I assume you had completed most of Phase 1 and were well into Phase 2. **1-9**

MR. SCOTT: Yeah. We had done some geophysical work there, had done soil, some soil borings, and a water-monitoring well. I think it was actually three water-monitoring wells that is specifically in the EIS. I can't remember exactly, but there had been some substantial work done at depth. That was a previously excavated area in a landfill closure from the 1984-1986 period.

So they had done a lot of work there, and they had a lot of reports there from that previous soil work and excavation area. So when we searched there what we did was typically go around where that old excavation had been because that had all been pulled out, been done, and put monitoring wells in. They did some soil sampling. They did some geophysical work.

MS. ELDREDGE: So the contamination there; was that found because of the characterization? I was under the impression from the EIS it was from some auxiliary work that was going on. **1-10**

MR. SCOTT: No. It was found from some routine maintenance at the surface, some ground regrading in that area. They typically capture all that soil and collect it,

and then test it at some later date. So that was on the surface in an area that had been previously excavated in the old landfill closure.

MS. ELDREDGE: So the geophysical work that you had done at that site up to that point did not find this contamination. **1-11**

MR. SCOTT: You couldn't expect it to. That geophysical work was looking for things like capacitors or large construction debris or things like that. That's what you look for in geophysical testing. You don't really test every inch, every square meter of the soil, although we have done a lot of soil testing and wells.

MR. CRANDALL: I think the direct answer is yes.

MS. ELDREDGE: Had there been soil testing at that site prior to finding the contamination? **1-12**

MR. SCOTT: There had been some soil testing, but it had been mainly in the area that had not been previously excavated, and that was where we had the issue of the soil testing not coming up with that -- that area there because, again, that was a relatively small area in a relatively large area, and we didn't go around the entire site and test samples from all areas. We tested where there was some suspicion that there might be some contamination.

MS. ELDREDGE: Going to employment levels, how many current Lawrence Livermore employees are expected to be **1-13**

employed at the NIF that are currently working in some other capacity, perhaps NOVA folks who are going to transfer? **1-13 (cont.)**

MR. CRANDALL: Well, NOVA has been closed.

MS. ELDREDGE: Right. I'm assuming they are doing something else.

MR. CRANDALL: There are a number of people working in laser development and in inertial fusion, and there was a study done that said what the anticipated employment was in the long term associated with operations at the NIF, and it was, I think, a number like 350, but I would have to go back and check that document.

MS. ELDREDGE: I remember 230 or something in that range. Were those new employees in addition to the current Lawrence Livermore employees, or that would be the total? **1-14**

MR. CRANDALL: No. That was the total number, and it assumed, I think, some small growth from the present base operations set, but not a huge growth.

MS. ELDREDGE: Do you have any idea how many new employees would be employed at NIF in that level? Would those be senior scientists? **1-15**

MR. CRANDALL: In them long term, you're talking?

MS. ELDREDGE: Yeah. Once it's finished and running. **1-15 (cont.)**

MR. CRANDALL: I don't know that number. I know the number -- I think I know the number that was on the

total.

MS. ELDREDGE: Which is the total, and it includes current employees. **1-15 (cont.)**

MR. CRANDALL: But it is in the economic impact as part of the original EIS.

MS. ELDREDGE: But it seems like all of those numbers were total numbers and not new employee numbers, which is what I'm trying to get at. **1-15 (cont.)**

MR. CRANDALL: Right. That may be true, and so you would have to do some analysis, but it could be determined.

MS. ELDREDGE: In regards to the white-tailed kite, which was mentioned as a possible victim of additional truck traffic, has there been evidence of disturbance to that species with the NIF construction? **1-16**

MR. SCOTT: In fact, there is no evidence of disturbance to the white-tailed kite. They are expanding. We probably have one of higher concentrations of the white-tailed kite because it's such a protected site. We meet probably biweekly on endangered species, and I know there's been four sets of hatchings over the past year, and some of them were double clutches, so we've had six to seven new sets of white-tailed kites coming up.

MS. ELDREDGE: So construction to this day has not disturbed -- **1-16 (cont.)**

MR. SCOTT: There has really been no impact that we can tell.

MR. CRANDALL: Unless it was positive.

MS. ELDREDGE: And my last question: Is the anticipated life of the facility, the 30-year number, due to expectations that the facility will become structurally problematic or just that that's the experiments that you expect to take that much time, and then you will be done? **1-17**

MR. SCOTT: I think it's because we can't really predict anything beyond a 30-year life. We just can't predict beyond 30 years. We just set an arbitrary cut-off point and say we have to be ready for -- assume a life cycle of 30 years.

MS. ELDREDGE: That's just an arbitrary number. **1-17 (cont.)**

MR. SCOTT: Pretty much.

MR. CRANDALL: Yes. The permanent equipment that doesn't get changed out on any kind of service basis could last longer. It's an arbitrary choice based on programmatic vision.

MS. ELDREDGE: And what's the vision beyond that? Is there going to be no more need for ignition work or fusion work? **1-17 (cont.)**

MR. CRANDALL: If I had a programmatic vision beyond that, I could give it to you, but I don't.

MS. ELDREDGE: There's no additional facilities

expected.

MR. CRANDALL: Right.

MS. ELDREDGE: Okay. That's all my questions. Thanks.

MR. BROWN: Are there any other questions?

(No response.)

MR. BROWN: Okay. We are now prepared to take formal comments. Again, if anybody is prepared to do that, I will ask them again to step to the mike and identify themselves and offer an organizational affiliation, if that's in order. Okay. Welcome. Welcome once again.

MR. ZERRIFFI: Again, I'm Hisham Zerriffi, Institute for Energy and Environmental Research, Takoma Park, Maryland. These are sort of what scattered comments, since I haven't prepared anything formal.

I'd like to start by saying that those of us who were not involved in the lawsuit or joint stipulation do see this as a NEPA document, and I'll speak only for myself -- I'm sure those who were involved in the lawsuit also see it as an NEPA document, but speaking as somebody who was not involved in the lawsuit who sees it as a NEPA document, I don't find this is very much of a document that follows in the spirit of NEPA in that you have activities ongoing before an environmental analysis is completed and before a decision is made.

1-18

To me, that violates the fundamental idea of NEPA. You have a facility now -- if your purpose was to evaluate the environmental impacts in the area of the construction of NIF, you started when you had almost no construction, and you put out an EIS, draft EIS, when you're 82 percent complete, something is wrong.

And I understand there is a court -- the courts skew things to a certain degree when you have this as part of a lawsuit, but this is just not NEPA. This is not a NEPA document. It looks like a NEPA document, it reads likes a NEPA document, but it is not a NEPA document in any common-sense of that.

1-18 (cont.)

My next comment is something relatively minor, but I think it deserves at least a little bit of comment, which is that you have on -- I don't remember what page it's on -- you have a discussion of the fact that if you demolish NIF under an action alternative because you decide that it's not going to work, you have all kinds of horrible environmental impacts demolishing it. My God, this is going to be terrible.

1-19

I know I'm being sarcastic, but my point is, quite simply, goes back to my question I had earlier: What are you going to do with it if you operate it? Either it's going to get demolished then or you don't have to demolish it now. That's really a straw man that you have in there.

That's a false comparison to make, to say if we stop now we're going to demolish it, we're going to have dust, we're going to have truck trash, we're going to have all of these things.

Well, you know, if you demolish it after 30 years you're going to have dust, truck traffic, and your dust is not going to be simply dust. It's going to have other things in it because your decontamination is not going to be a hundred percent. If you can moth ball it at that point in time, you can moth ball it now and just leave it. **1-19 (cont.)**

It's a false argument. It detracts from the document. I would really suggest changing that in the final document. Either compare the consequences of destruction now and destruction then or quite explicitly state that you can moth ball the facility with a minor amount of work, I'm sure, and walk away from it. It's been done before in the DOE. I know. There's plenty of facilities sitting all over the complex that have never opened their doors.

My next point is related to my questions about plutonium, uranium, lithium hydride. My comment is simply this. If you construct a facility that is designed to have certain operations or can have certain operations, those environmental impacts need to be addressed at that time so that commenters like myself, when commenting on the facility and the environmental impacts of the facility, way back in **1-20**

the SSN PEIS, can know the full range of activities and the full range of environmental impacts that they may have.

I don't think that it is valid to say we're going to defer judgment on whether we're going to use plutonium and then conduct a NEPA analysis at that time. That NEPA analysis should have been done as part of the SSN PEIS. It could even have been done as part of this EIS, considering that you had the EPA say, look at the environmental hazards of operating the National Ignition Facility. **1-21**

Use of plutonium and lithium hydride and uranium is going to have environmental impacts. And so you could have done that as part of the first one. You could have done it as part of this one. It's got to be done because it is a fundamental part of the facility that it can operate with those materials and there have been actually -- the idea to use those materials has been presented. It's got to be evaluated then as part of a whole.

Let me see. Essentially, that's it. I just want to reiterate that you have essentially precluded any real action in this EIS. It's really -- you know, you said it perfectly. You did it to comply with an order. You didn't do it in order to follow NEPA. **1-22**

And so personally, you know, this document, I'm sorry that there has been this money spent on this document. I'm sorry that you have this number of people sitting in

this room at I don't know how many dollars an hour our taxpayers' money is going to for a document that is completely and utterly useless as a decision-making document under NEPA. It was a waste of time.

I'm glad you went around and you looked and you did the geophysical measurements and you checked and you did all of those other things. Excellent. It should have been done ahead of time, but it's good you finally did it. This, a waste of paper, a waste of time, and a waste of money. **1-23**

MR. FERGUSON: Could I just add for the record, since you weren't involved with the litigation, I wouldn't expect you to know this, but that was exactly what the department offered to do, and the plaintiffs would not settle on that basis? They insisted on an EIS. Therefore, the document you see is in the form it's in because of the nature of the settlement.

MR. BROWN: But we have your comments on the record. I appreciate it. Thank you. You're commenting as well?

MR. SCOTT: Could I ask, are you going to provide written comments of this or kind of articulate?

MR. ZERRIFFI: No. I mean, unless you see something -- I think basically what I had to say is in the transcript. I don't see how it's anything much differently.

MR. BROWN: Thanks.

MS. ELDREDGE: Maureen Eldredge with the Alliance for Nuclear Accountability. We are an umbrella organization for 30 groups who work around DOE's nuclear weapons sites, and a large number of them were party to the lawsuit, and I have to say that one of the reasons they insisted on an EIS was to get a real EIS, and this is not that document.

To echo what Hisham said, this is in no way a tool for decision-making. It has a preordained outcome. All of the evidence is slanted to the preferred alternative, and it is the most narrow interpretation of the joint order in terms of the scope. This was an opportunity to do a more thorough evaluation of the NIF and its consequences, an opportunity that seems even more valuable right now because of the changes to some of the NIF construction horizons, given its budgetary and technical problems, and that opportunity was wasted. **1-24**

As I said, it was overly narrow in scope, and there were no scoping hearings, which are not required as part of NEPA but certainly are a valuable way for the department to get a better sense of what the picture they should be looking at is. And I think the absence of scoping hearings was just one of the flaws of this document.

In terms of specific problems, the failure to analyze action alternatives at any depth is ridiculous. The heart of NEPA is alternatives. You can scarcely say you **1-25**

have a NEPA document when you say at the beginning there weren't any other reasonable alternatives, so we didn't look at any. I think already one has been mentioned: Rather than demolishing the building, moth balling it right now. That is a perfectly reasonable alternative, in fact, one that would be much cheaper than any of the other alternatives, and that was not considered in any way. The original lawsuit was precisely based on the inadequacy of the EISs, and this NEPA document repeats that problem. **1-25 (cont.)**

Second, you cannot assume the probability of finding new contamination at the site is zero, as is stated in the document. The problems at the east traffic circle were found. I thought they were found just after Phase 1 evaluation. That they were found after some additional characterization under Phase 2 is a little bit shocking, and that they weren't found from any of that characterization work but from some unrelated routine-maintenance work speaks to the fact that I doubt we can say with the kind of certainty that is said in this document that all of the contamination problems have been found. Given the history of the area, given the shoddy record keeping of the past, I think continued characterization is warranted. **1-26**

Looking at the job situation, the NEPA document states quite dramatically that there will be socio-economic impacts due to job loss if the facility is not constructed **1-27**

and demolished. However, there seems to be really no basis in fact for any of those statements.

If a new alternative use of the facility was put in place, there might be more jobs than for what the NIF facility right now is calculated to offer. I don't know that any analysis of what level of employment would happen if some other alternative use of that facility came into play.

There is no information on the number of new jobs, so we're not just talking about, you know, suddenly we're going to fire 300 Lawrence Livermore employees if NIF doesn't get built. Right now there are currently employees working there. Can they be reassigned? Has there been any analysis of that? What is the retirement rate? What people would be leaving anyway? **1-27 (cont.)**

It seems like that whole statement is just based on pulling things out of the sky. And it also doesn't look at current employment opportunities in the area. We're right now in an economic boom, and California is certainly in the heart of some of that economic boom, and no one has looked at what current employment opportunities are in the area if people did get laid off from that work. And there might be no socio-economic impact, and none of that analysis has been done. Analysis needs to be of new jobs, not total jobs.

Further on, it talks about worker injury, and the statement that more workers would be injured if the building was demolished than if construction continued. That statement, again, is completely without basis in fact and cannot be substantiated. You can discuss relative probability of injuries.

You cannot make a blanket statement that more workers will, in fact, be injured. You can't know that. And, in fact, demolition right now might be safer than some year 30 years or more hence when we have to do D&D on this facility because now there is no radiation contamination in the facility. So the impacts on workers might even be less. None of that analysis was done rigorously. **1-28**

The statement also says that increased traffic from demolition might disturb the white-tailed kites. This is also not substantiated. In fact, earlier questions said that the traffic from construction of NIF, which certainly must have been significant, had no impact on the bird population. So what is the basis for a statement that increased traffic from demolition would somehow impact the bird population? If it didn't impact them when they were building it, why would it impact them when they are taking it down? Using that, trying to cover up the need to continue this facility with the poor, innocent, white-tailed kite, I think, is really out of line. **1-29**

And, finally, I have to agree with Hisham regarding the analysis for using the facility for plutonium, uranium, other elements. If that is a potential use of the facility, it needs to be analyzed now. I don't think we want to wait until 2004 for yet another NEPA document that has yet another preordained outcome. I think the communities have a right to know what some of the potential impacts are now. Thank you. **1-30**

MR. BROWN: Thank you. Any other public comments?

(No response.)

MR. BROWN: Great. Right on time.

MS. AURILLIO: Hi. Good afternoon. Thank you for giving me the opportunity to testify. My name is Anna Aurillio. I'm a staff scientist with the U.S. Public Interest Research Group. We are the national lobbying office for the state PIRGs, which are nonprofit, nonpartisan, environmental, consumer, and good-government advocacy organizations active across the country.

Our motto is, when it comes to the environment is "prevent pollution," and in my background as an environmental engineer looking at different sources and problems of environmental pollution, we have definitely found that preventing pollution is cheaper and easier than cleaning up once it has occurred. And I wanted to comment on this supplemental EIS because I feel like the National **1-31**

Ignition Facility is a project that is going to make environmental problems at Lawrence Livermore National Labs worse and not better for a couple of reasons. **1-31 (cont.)**

First of all, we are part of the Green Scissors Campaign, along with Friends of the Earth and Taxpayers for Common Sense. U.S. PIRG is a leader in this campaign, which has helped to eliminate billions of dollars worth of federal spending on programs that we feel are both wasteful and environmentally harmful. In fact, many of our successes are programs that were being conducted right here in this building, and we hope to add the NIF to this list. And the reason for that is threefold.

First of all, we think the NIF is incredibly expensive, and the attachment that I have attached to the back of my statement shows that cost estimates continue to go up. In fact, someone once told me that if you look at any DOE project and you take the initial estimate and you look at the relationship between that and the final cost, there is always a factor of pi involved, and we're starting to get close to that here. **1-32**

And, in fact, we have now learned that DOE is admitting that this project is likely to cost hundreds of millions of dollars more, and there are serious technical questions as to whether or not it will actually be a national ignition facility as opposed to a national laser

facility, let's say.

So it's extremely expensive, and at the same time, while PIRG and other groups have been working to cut environmentally harmful programs from DOE's budget, we have also been working to increase funding for programs that we feel will lead this country to a more secure, affordable energy future, such as the renewable energy and the energy efficiency programs. And working under the congressional budget caps, we know that programs that are funded in the Energy and Water Bill, for example, will complete against one another and that the National Ignition Facility will create a huge funding wedge that will squeeze out programs that we think are much more likely to lead us to a sustainable energy future than laser-driven future. **1-32 (cont.)**

And I know that energy research is one reason often given as sort of a side benefit of the NIF, much like Tang was a side benefit of the Apollo moon mission, but I don't think it justifies spending $5 million on this project.

So we don't think it's going to lead to an environmentally sound energy source. Certainly the economics of it seem pretty remote as well in terms of energy policy, so you can't justify it that way. I know that folks in the arms-control community have serious concerns about that aspect of it. And, finally, I mean this **1-33** **1-34**

project is going to create and use radioactive materials so you're going to increase environmental risks, both to workers and then to whoever is left to clean up the site.

So we feel that this project should not go forward. You know, you've discovered some PCBs at the site, and the supplemental EIS talks about the steps you've taken to try to remediate that problem. Now why are you going to go and build a project that is going to use radioactive materials and put it on the site? That's not going to help, and you are going to end up spending even more hard-earned taxpayer dollars, so we urge that this project be terminated. Thanks.

1-34 (cont.)

MR. BROWN: Thank you.

MR. CRANDALL: Can I make one comment in response?

MS. AURILLIO: Sure.

MR. CRANDALL: We will respond to your comments in the document, but I couldn't help but be touched by your use of pi because I've used it since I was a research post-doc.

MS. AURILLIO: Maybe I heard it from you.

MR. CRANDALL: In evaluating all endeavors that are something that hadn't been done before. If you're really good and you have good vision and you do it well, you get pi.

MS. AURILLIO: Well, I understand that.

MR. CRANDALL: I hoped that we would be better

than that because we had sufficient background, but time will tell.

MS. AURILLIO: Uh-huh.

MR. CRANDALL: The other comment was more seriously, you commented on the probability of ignition, which, of course, can only be evaluated by judgment because it's never been accomplished. Our confidence scientifically in ignition is higher than it's ever been. Nothing has changed that --

MS. AURILLIO: I was led to believe.

MR. CRANDALL: -- except for the positive.

MS. AURILLIO: Well, I was led to believe that actually there were some problems with materials used to make the lenses and that that actually might limit the energy that you would be able to put out. Is that not the case? **1-35**

MR. CRANDALL: There are issues with what's called 3-Omega damage to the final optics components that would limit, if not ameliorate, would limit the full power shots you could do without changing out those components. But it would not curtail you from doing those. It might mean that your operational costs were higher, but you could still do the full power shots and do ignition.

MS. AURILLIO: How much higher? Is that included in the $300 million additional cost? **1-36**

MR. CRANDALL: It's being evaluated now, but the current expectation is that that problem will be eliminated or ameliorated by presently understood and being investigated mechanisms for the damage. But if it were not, it would lead to higher operational costs, and that has not been fully determined, but it's not a doubling of operational costs.

So, yes, it would be an issue. No, it doesn't really have an impact on the probability of achieving the mission.

MS. AURILLIO: Hmm. Okay. Well, that's different than other points of view I've been led to believe. Do you have any other questions or comments?

MR. CRANDALL: Yeah. It is a matter of judgment, of course.

MS. AURILLIO: Okay.

MR. BROWN: Okay. Thanks very much. Are there other comments from the public at this time?

MR. SCOTT: As the document manager, I'd like to again reiterate that we would be looking for any comments that you have to improve the quality of the document. We feel that we did a thorough, professional, and accurate job looking at the varied materials and the potential for environmental impacts from those materials and if you have something that you would like to relevant to those kinds of

issues, we would certainly like to get it in writing. We would certainly like to address it and improve the quality of the final document.

MR. BROWN: All right. If we have no other public comments at this time, we will recess the meeting rather than adjourn, in case either you have any further comments or someone shows up to make a comment. So at this point we will recess. Thanks again.

(Whereupon, at 3:10 p.m., a brief recess was taken.)

MR. BROWN: It is 4 o'clock. We are reconvening the public meeting on draft environmental impact statement, the supplemental draft environmental impact statement on the National Ignition Facility for the purpose of taking public comments. There is no member of the public wishing to make comments at this point. We have reached the conclusion of the time allotted for the meeting, and so we are formally adjourning this session. Thank you very much.

(Whereupon, at 4:00 p.m., the meeting was adjourned.)

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CERTIFICATE OF COURT REPORTER/NOTARY PUBLIC

I, Theodore Fambro, the officer before whom the foregoing testimony was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me and thereafter reduced to typewriting; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto; nor am I financially or otherwise interested in the outcome of the action.

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Court Reporter/Notary Public

My Commission Expires:

DOCUMENT 2: Fact Sheet, U.S. Public Interest Research Group

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U.S. Public Interest Research Group

National Association of State PIRGs

TESTIMONY OF ANNA AURILIO, U.S. PIRG STAFF SCIENTIST ON THE NATIONAL IGNITION FACILITY DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

December 1, 1999

As one of the leading groups in the Green Scissors coalition with Friends of the Earth and Taxpayers for Common Sense, we have opposed the National Ignition Facility as a wasteful government program which will harm the environment. This project, as far as we can tell, is an extremely expensive make work project for weapons scientists. The NIF is too expensive and environmentally harmful to justify its existence and should be terminated. The Lawrence Livermore National Laboratory is already a Superfund site, and the NIF will worsen the problem by generating more radioactive waste.

From an energy policy perspective, the National Ignition Facility will divert increasingly scarcer research dollars from valuable renewable energy and energy efficiency programs. Instead it will squander hard-earned tax dollars on a project which is very unlikely to lead to an economically viable energy source and certainly not one which will be environmentally acceptable. Indeed, the NIF will use and generate radioactive materials, which will increase environmental risks. 2-1

Finally, this project has been mismanaged and continues to be plagued by serious technical problems. NIF's cost estimates have doubled since 1994. The attachment shows that the 1998 construction and 30 year operating costs total at least $5 billion. Now DOE has admitted that NIF is at least $300 million over budget and more than a year behind schedule. Even the Energy and Water Appropriators have demanded more accountability and have asked that termination costs be estimated if the Secretary cannot certify a new cost and schedule baseline. This project should be terminated to prevent further contamination of the environment and further waste of tax dollars.

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Livermore Make-Work

National Ignition Facility

$5 billion

"As far as maintaining the stockpile is concerned, (NIF) is not necessary"

Ray Kidder, Livermore laser physicist, *Science*, Vol. 277, July 18, 1997

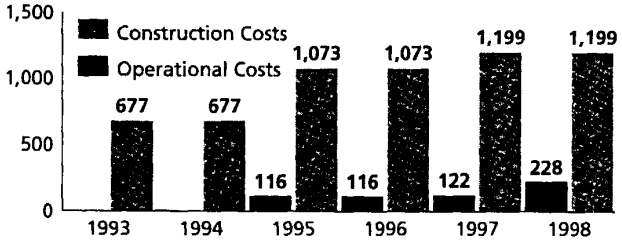
The National Ignition Facility (NIF) is a Department of Energy (DOE) nuclear weapons project being constructed at the Lawrence Livermore National Laboratory in northern California. NIF would use laser fusion technology to blast a fuel pellet of radioactive tritium and deuterium in hopes of igniting a thermonuclear explosion in a reactor vessel ignition. NIF's cost estimates have doubled since 1994 and are continuing to rise. Current expected construction estimates are $1.2 billion with another $3.8 billion in operating costs over 30 years. NIF will produce radioactive waste and threaten efforts to limit the spread of nuclear weapons.

Green Scissors Proposal The National Ignition Facility should be canceled and construction terminated. Relying on existing facilities rather than expensive new ones would save the taxpayer more than $5 billion over the 30-year lifetime of the project.

Current Status NIF is a rapidly expanding "black hole" for tax dollars. In 1998, Congress appropriated NIF $393.2 million for FY99, including $291.2 million for construction and another $102 million drawn from a separate inertial fusion line item. The project had received $229.1 million in FY98, up from $191 million in FY97. In 1997, an unrecorded waste dump was discovered beneath the NIF construction site. DOE was subsequently ordered by Federal court to prepare a supplemental Environmental Impact Statement for NIF.

National Ignition Facility Costs

In $ millions



Note: For 1998, Operational cost estimates includes $102 million drawn from a separate Inertial Fusion Line.
Source: Alliance for Nuclear Accountability

Project Hurts Taxpayers

NIF is extremely expensive. NIF is the single most costly element of DOE's nuclear weapons program (called Stockpile Stewardship), although its value to stewardship of the U.S. nuclear arsenal is dubious at best.

Billions of taxpayer dollars are being thrown at an experimental program. Experts at DOE's own laboratories rate NIF's chances of achieving ignition at less than 10 percent.

Taxpayer dollars are being wasted as NIF offers no commercial use. The future of laser fusion as an energy source is highly speculative. A commercially viable fusion demonstration plant will not be possible for at least three to four decades, if ever.

Project Hurts the Environment

NIF will create radioactive waste. Its fuel contains radioactive tritium and even its "routine" operation creates contamination. Due to a lawsuit brought by 39 plaintiff organizations, in 1998 the government declassified formerly secret documents outlining plans to use uranium, plutonium and lithium hydride in NIF experiments. This would increase environmental risks.

The site needs cleanup, not more waste. Livermore Lab is already a Superfund site. FY99 cleanup funding for the entire site will total a mere five percent of the NIF budget.

NIF undermines efforts to prevent the spread of nuclear weapons. By providing a means for nuclear weapons designers to continue their research and development in the absence of underground testing, NIF fosters nuclear weapons advancement. Controversy exists as to whether NIF violates the Comprehensive Test Ban Treaty.

Contacts

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DOCUMENT 3: Meeting Transcript, Livermore, California, December 8, 1999, 3:00 p.m.

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